

Content Review Sessions 2019-20

AP Math and Computer Science
AP Sciences

Scheduling:

- First CRS will occur between January and March
- Second CRS will be combined with science and English and occur in April or May

(External presenters may not be hired for attendance projections of less than 10 students per session at any location. This will be determined based on budgetary efficiency)

(Content Directors will consult with teachers to set dates, content, and format.)

Format Options:

1. Regionally on a Saturday with other proximate active AdvKY schools (within an hour's drive).
(AdvanceKentucky will reimburse the cost of buses to transport students if necessary.)
2. As an in-school “field trip” during the instructional day.
3. Two 2- or 3-block sessions after school.
4. During an in-service day.

Math Materials & Equipment

- Student Needs
 - Graphing calculators
 - Computers (CS)

- Presenter Needs
 - Access to projector and/or document camera
 - Personal or school computer and necessary adapters
 - Board surface

- AdvKY Provides
 - Snacks & swag

Science Materials & Equipment

- Student Needs
 - Scientific calculator
 - Computers (CS)

- Presenter Needs
 - Access to projector and/or document camera
 - Laboratory equipment/access
 - Board surface

- AdvKY Provides
 - Laboratory consumables
 - Snacks & swag

Math CRS #1 Topics

CRS 1 Topics to be Selected from the Following

AP Calculus AB/BC

- Limits, Continuity, and Differentiability
- Analyzing a Function Based on its Derivatives
- Derivatives and Their Applications
- Big Theorems (IVT, EVT, and MVT)
- Area Approximation and Accumulation

AP Statistics

- Descriptive Statistics
- Designing Studies and Experiments
- Linear Regression
- Normal Distributions and Sampling Distributions
- Probability
- Mixed Review 1

AP CSP

- Create PT Writing
- Algorithm and Developing Programs
- Data Compression and Storage Security
- Control Structures in Programming Languages

AP CSA

- Methods and Tracing
- Strings
- Object-Oriented Programming
- 1 Dimensional Arrays

Math CRS #2 Topics

CRS 2 Topics to be Selected from the Following

<u>AP Calculus AB</u>	<u>AP Calculus BC</u>	<u>AP Statistics</u>	<u>AP CSP</u>	<u>AP CSA</u>
<ul style="list-style-type: none"> • Particle Motion • Fundamental Theorem of Calculus • Slope Fields and Differential Equations • Area and Volume • Writing Justifications and Avoiding Common Errors 	<ul style="list-style-type: none"> • BC Integrals and Applications • Parametrics, Polars, and Vectors • Convergence of Series • Taylor Series 	<ul style="list-style-type: none"> • Understanding Inference • Inference for Proportions • Inference for Means • Chi Square Tests • Inference Review • Mixed Review 2 	<ul style="list-style-type: none"> • Robot Algorithms • Digital Representations of Data and Numbering Systems • Data Mining • Simulation and Models 	<ul style="list-style-type: none"> • Array Lists • Algorithm Practice • Inheritance • 2 Dimensional Arrays

Science CRS #1 Topics

Science Topics may include (but are not limited to):

	AP Biology, Track 1	AP Biology, Track 2	AP Chemistry	AP Env Sci	AP Phys 1
Block 1	The Central Dogma: DNA → RNA → Protein	Biomolecules and Biochemistry	Structure of Matter and Net Ionic Eqn's	Water Analysis (lab)	Kinematics
Block 2	Bacterial Transformation (lab)	Enzymes and Catalysis	Stoichiometry: Why the Mole?		Energy Flow and Power -- Calculations
Block 3		Cellular Respiration and Photosynthesis	Thermochemistry and Thermodynamics (lab)		
Block 4		The Cell Cycle and Feedback		Renewable and Non-Renewable Resources	Rotational Motion

Science CRS #2 Topics

Science Topics may include (but are not limited to):

	AP Biology, Track 1	AP Biology, Track 2	AP Chemistry	AP Env Sci	AP Phys 1
Block 1		Microevolution and Natural Selection	Intermolecular Forces	Human Populations	Waves
Block 2	Animal Behavior, Designing an Experiment Statistical Analysis and Graphing	Macroevolution and Hardy-Weinberg Equilibrium	Chemical Kinetics	Climate Change – Policy and Science	Electric Circuits – Volts, Amps, Resistance, Power (lab)
Block 3		Cellular Communication	Equilibrium in Aqueous Systems— Acids, Bases, Buffers (lab)	Math Review	
Block 4		Math Skills Review – Grid-in Questions		Legislation and Ethics	Answering the Lab Based Question

CRS Contacts

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